

## DIAGNOSTIC TROUBLE CODE CHART

### HINT:

Parameters listed in the chart may not be exactly the same as your readings due to the type of instrument or other factors. If a DTC is displayed, check the trouble area for the DTC listed in the table below. For details of each DTC.

\*: MIL flashes when a catalyst damaged misfire is detected.

DTC No.	Detection Item	Trouble Area	MIL	Memory	See page
P0010	Camshaft Position "A" Actuator Circuit (Bank 1)	- Open or short in Oil Control Valve (OCV) circuit - OCV - ECM	Comes on	DTC stored	ES-66
P0011	Camshaft Position "A" - Timing Over-Advanced or System Performance (Bank 1)	- Valve timing - Oil Control Valve (OCV) - OCV filter - Camshaft timing gear assembly - ECM	Comes on	DTC stored	ES-71
P0012	Camshaft Position "A" - Timing Over-Retarded (Bank 1)	- Same as DTC P0011	Comes on	DTC stored	ES-71
P0016	Crankshaft Position - Camshaft Position Correlation (Bank 1 Sensor A)	- Mechanical system (Timing chain has jumped tooth or chain stretched) - ECM	Comes on	DTC stored	ES-76
P0031	Oxygen (A/F) Sensor Heater Control Circuit Low (Bank 1 Sensor 1)	- Open in Air-Fuel Ratio (A/F) sensor heater circuit - A/F sensor heater - A/F HEATER relay - ECM	Comes on	DTC stored	ES-78
P0032	Oxygen (A/F) Sensor Heater Control Circuit High (Bank 1 Sensor 1)	- Short in Air-Fuel Ratio (A/F) sensor heater circuit - A/F sensor heater - A/F HEATER relay - ECM	Comes on	DTC stored	ES-78
P0037	Oxygen Sensor Heater Control Circuit Low (Bank 1 Sensor 2)	- Open or short in Heated Oxygen (HO <sub>2</sub> ) sensor heater circuit - HO <sub>2</sub> sensor heater - EFI relay - ECM	Comes on	DTC stored	ES-83
P0038	Oxygen Sensor Heater Control Circuit High (Bank 1 Sensor 2)	- Open or short in Heated Oxygen (HO <sub>2</sub> ) sensor heater circuit - HO <sub>2</sub> sensor heater - EFI relay - ECM	Comes on	DTC stored	ES-83
P0100	Mass or Volume Air Flow Circuit	- Open or short in Mass Air Flow (MAF) meter circuit - MAF meter - ECM	Comes on	DTC stored	ES-88
P0101	Mass Air Flow Circuit Range / Performance Problem	- Mass Air Flow (MAF) meter	Comes on	DTC stored	ES-95

DTC No.	Detection Item	Trouble Area	MIL	Memory	See page
P0102	Mass or Volume Air Flow Circuit Low Input	- Open or short in Mass Air Flow (MAF) meter circuit - MAF meter - ECM	Comes on	DTC stored	ES-88
P0103	Mass or Volume Air Flow Circuit High Input	- Open or short in Mass Air Flow (MAF) meter circuit - MAF meter - ECM	Comes on	DTC stored	ES-88
P0110	Intake Air Temperature Circuit	- Open or short in Intake Air Temperature (IAT) sensor circuit - IAT sensor (built into MAF meter) - ECM	Comes on	DTC stored	ES-97
P0112	Intake Air Temperature Circuit Low Input	- Short in Intake Air Temperature (IAT) sensor circuit - IAT sensor (built into MAF meter) - ECM	Comes on	DTC stored	ES-97
P0113	Intake Air Temperature Circuit High Input	- Open in Intake Air Temperature (IAT) sensor circuit - IAT sensor (built into MAF meter) - ECM	Comes on	DTC stored	ES-97
P0115	Engine Coolant Temperature Circuit	- Open or short in Engine Coolant Temperature (ECT) sensor circuit - ECT sensor - ECM	Comes on	DTC stored	ES-102
P0116	Engine Coolant Temperature Circuit Range / Performance Problem	- Engine Coolant Temperature (ECT) sensor	Comes on	DTC stored	ES-107
P0117	Engine Coolant Temperature Circuit Low Input	- Short in Engine Coolant Temperature (ECT) sensor circuit - ECT sensor - ECM	Comes on	DTC stored	ES-102
P0118	Engine Coolant Temperature Circuit High Input	- Open in Engine Coolant Temperature (ECT) sensor circuit - ECT sensor - ECM	Comes on	DTC stored	ES-102
P0120	Throttle / Pedal Position Sensor / Switch "A" Circuit	- Throttle Position (TP) sensor (built into throttle body) - ECM	Comes on	DTC stored	ES-110
P0121	Throttle / Pedal Position Sensor / Switch "A" Circuit Range / Performance Problem	- Throttle Position (TP) sensor (built into throttle body)	Comes on	DTC stored	ES-118
P0122	Throttle / Pedal Position Sensor / Switch "A" Circuit Low Input	- Throttle Position (TP) sensor (built into throttle body) - Short in VTA1 circuit - Open in VC circuit - ECM	Comes on	DTC stored	ES-110

DTC No.	Detection Item	Trouble Area	MIL	Memory	See page
P0123	Throttle / Pedal Position Sensor / Switch "A" Circuit High Input	<ul style="list-style-type: none"> <li>- Throttle Position (TP) sensor (built into throttle body)</li> <li>- Open in VTA1 circuit</li> <li>- Open in E2 circuit</li> <li>- Short between VC and VTA1 circuits</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-110</a>
P0125	Insufficient Coolant Temperature for Closed Loop Fuel Control	<ul style="list-style-type: none"> <li>- Cooling system</li> <li>- Engine coolant temperature sensor</li> <li>- Thermostat</li> </ul>	Comes on	DTC stored	<a href="#">ES-120</a>
P0128	Coolant Thermostat (Coolant Temperature Below Thermostat Regulating Temperature)	<ul style="list-style-type: none"> <li>- Thermostat</li> <li>- Cooling system</li> <li>- Engine coolant temperature sensor</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-123</a>
P0136	Oxygen Sensor Circuit Malfunction (Bank 1 Sensor 2)	<ul style="list-style-type: none"> <li>- Open or short in Heated Oxygen (HO2) sensor (sensor 2) circuit</li> <li>- HO2 sensor (sensor 2)</li> <li>- HO2 sensor heater (sensor 2)</li> <li>- Air-Fuel Ratio (A/F) sensor (sensor 1)</li> <li>- EFI relay</li> <li>- Gas leakage from exhaust system</li> </ul>	Comes on	DTC stored	<a href="#">ES-126</a>
P0137	Heated Oxygen Sensor Circuit Low Voltage (Bank 1 Sensor 2)	<ul style="list-style-type: none"> <li>- Open in Heated Oxygen (HO2) sensor (sensor 2) circuit</li> <li>- HO2 sensor (sensor 2)</li> <li>- HO2 sensor heater (sensor 2)</li> <li>- EFI relay</li> <li>- Gas leakage from exhaust system</li> </ul>	Comes on	DTC stored	<a href="#">ES-126</a>
P0138	Oxygen Sensor Circuit High Voltage (Bank 1 Sensor 2)	<ul style="list-style-type: none"> <li>- Short in Heated Oxygen (HO2) sensor (sensor 2) circuit</li> <li>- HO2 sensor (sensor 2)</li> <li>- ECM internal circuit malfunction</li> </ul>	Comes on	DTC stored	<a href="#">ES-126</a>

DTC No.	Detection Item	Trouble Area	MIL	Memory	See page
P0171	System Too Lean (Bank 1)	<ul style="list-style-type: none"> <li>- Air induction system</li> <li>- Injector blockage</li> <li>- Mass Air Flow (MAF) meter</li> <li>- Engine Coolant Temperature (ECT) sensor</li> <li>- Fuel pressure</li> <li>- Gas leakage from exhaust system</li> <li>- Open or short in Air-Fuel Ratio (A/F) sensor (sensor 1) circuit</li> <li>- A/F sensor (sensor 1)</li> <li>- A/F sensor heater (sensor 1)</li> <li>- A/F HEATER relay</li> <li>- A/F sensor heater and A/F HEATER relay circuits</li> <li>- PCV valve and hose</li> <li>- PCV hose connections</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-144</a>
P0172	System Too Rich (Bank 1)	<ul style="list-style-type: none"> <li>- Injector leakage or blockage</li> <li>- Mass Air Flow (MAF) meter</li> <li>- Engine Coolant Temperature (ECT) sensor</li> <li>- Ignition system</li> <li>- Fuel pressure</li> <li>- Gas leakage from exhaust system</li> <li>- Open or short in Air-Fuel Ratio (A/F) sensor (sensor 1) circuit</li> <li>- A/F sensor (sensor 1)</li> <li>- A/F sensor heater (sensor 1)</li> <li>- A/F HEATER relay</li> <li>- A/F sensor heater and A/F HEATER relay circuits</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-144</a>
P0220	Throttle / Pedal Position Sensor / Switch "B" Circuit	<ul style="list-style-type: none"> <li>- Throttle Position (TP) sensor (built into throttle body)</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-110</a>
P0222	Throttle / Pedal Position Sensor / Switch "B" Circuit Low Input	<ul style="list-style-type: none"> <li>- Throttle Position (TP) sensor (built into throttle body)</li> <li>- Short in VTA2 circuit</li> <li>- Open in VC circuit</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-110</a>

DTC No.	Detection Item	Trouble Area	MIL	Memory	See page
P0223	Throttle / Pedal Position Sensor / Switch "B" Circuit High Input	<ul style="list-style-type: none"> <li>- Throttle Position (TP) sensor (built into throttle body)</li> <li>- Open in VTA2 circuit</li> <li>- Open in E2 circuit</li> <li>- Short between VC and VTA2 circuits</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-110</a>
P0300	Random / Multiple Cylinder Misfire Detected	<ul style="list-style-type: none"> <li>- Open or short in engine wire harness</li> <li>- Connector connection</li> <li>- Vacuum hose connections</li> <li>- Ignition system</li> <li>- Injector</li> <li>- Fuel pressure</li> <li>- Mass Air Flow (MAF) meter</li> <li>- Air induction system</li> <li>- Engine Coolant Temperature (ECT) sensor</li> <li>- Compression pressure</li> <li>- Valve clearance</li> <li>- Valve timing</li> <li>- PCV valve and hose</li> <li>- PCV hose connections</li> <li>- ECM</li> </ul>	Comes on*	DTC stored	<a href="#">ES-156</a>
P0301	Cylinder 1 Misfire Detected	- Same as P0300	Comes on*	DTC stored	<a href="#">ES-156</a>
P0302	Cylinder 2 Misfire Detected	- Same as P0300	Comes on*	DTC stored	<a href="#">ES-156</a>
P0303	Cylinder 3 Misfire Detected	- Same as P0300	Comes on*	DTC stored	<a href="#">ES-156</a>
P0304	Cylinder 4 Misfire Detected	- Same as P0300	Comes on*	DTC stored	<a href="#">ES-156</a>
P0327	Knock Sensor 1 Circuit Low Input (Bank 1 or Single Sensor)	<ul style="list-style-type: none"> <li>- Short in knock sensor circuit</li> <li>- Knock sensor</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-167</a>
P0328	Knock Sensor 1 Circuit High Input (Bank 1 or Single Sensor)	<ul style="list-style-type: none"> <li>- Open in knock sensor circuit</li> <li>- Knock sensor</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-167</a>
P0335	Crankshaft Position Sensor "A" Circuit	<ul style="list-style-type: none"> <li>- Open or short in Crankshaft Position (CKP) sensor circuit</li> <li>- CKP sensor</li> <li>- Sensor plate (CKP sensor plate)</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-171</a>
P0339	Crankshaft Position Sensor "A" Circuit Intermittent	- Same as P0335	-	DTC stored	<a href="#">ES-171</a>
P0340	Camshaft Position Sensor "A" Circuit (Bank 1 or Single Sensor)	<ul style="list-style-type: none"> <li>- Open or short in Camshaft Position (CMP) sensor circuit</li> <li>- CMP sensor</li> <li>- Camshaft</li> <li>- Jumped tooth of timing chain</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-176</a>

DTC No.	Detection Item	Trouble Area	MIL	Memory	See page
P0341	Camshaft Position Sensor "A" Circuit Range / Performance (Bank 1 or Single Sensor)	- Same as DTC P0340	Comes on	DTC stored	<a href="#">ES-176</a>
P0351	Ignition Coil "A" Primary / Secondary Circuit	- Ignition system - Open or short in IGF1 or IGT circuit (1 to 4) between ignition coil with igniter and ECM - No. 1 to No. 4 ignition coils with igniters - ECM	Comes on	DTC stored	<a href="#">ES-180</a>
P0352	Ignition Coil "B" Primary / Secondary Circuit	- Same as DTC P0351	Comes on	DTC stored	<a href="#">ES-180</a>
P0353	Ignition Coil "C" Primary / Secondary Circuit	- Same as DTC P0351	Comes on	DTC stored	<a href="#">ES-180</a>
P0354	Ignition Coil "D" Primary / Secondary Circuit	- Same as DTC P0351	Comes on	DTC stored	<a href="#">ES-180</a>
P0412	Secondary Air Injection System Switching Valve "A" Circuit	- Open in Air Switching Valve (ASV) drive circuit - Short between ASV drive circuit and +B circuit - Short between ASV drive circuit and body ground - Air Injection Control Driver (AID) - ASV - ECM	Comes on	DTC stored	<a href="#">ES-189</a>
P0418	Secondary Air Injection System Control "A" Circuit	- Open in air pump drive circuit - Short between air pump drive circuit and +B circuit - Short between air pump drive circuit and body ground - Air pump - Air Injection Control Driver (AID) - ECM	Comes on	DTC stored	<a href="#">ES-199</a>
P0420	Catalyst System Efficiency Below Threshold (Bank 1)	- Front exhaust pipe (TWC) - Gas leakage from exhaust system - Air-Fuel Ratio (A/F) sensor (sensor 1) - Heated Oxygen (HO2) sensor (sensor 2)	Comes on	DTC stored	<a href="#">ES-206</a>
P043E	Evaporative Emission System Reference Orifice Clog Up	- Canister pump module - Connector/Wire harness (Canister pump module - ECM) - ECM - Leakage from EVAP system	Comes on	DTC stored	<a href="#">ES-213</a>

DTC No.	Detection Item	Trouble Area	MIL	Memory	See page
P043F	Evaporative Emission System Reference Orifice High Flow	- Canister pump module - Connector/Wire harness (Canister pump module - ECM) - ECM - Leakage from EVAP system	Comes on	DTC stored	<a href="#">ES-213</a>
P0441	Evaporative Emission Control System Incorrect Purge Flow	- Purge VSV - Connector/wire harness (Purge VSV - ECM) - Canister pump module - Leakage from EVAP line (Purge VSV - Intake manifold) - Leakage from EVAP system - ECM	Comes on	DTC stored	<a href="#">ES-220</a>
P0450	Evaporative Emission Control System Pressure Sensor / Switch	- Canister pump module - ECM	Comes on	DTC stored	<a href="#">ES-228</a>
P0451	Evaporative Emission Control System Pressure Sensor Range / Performance	- Canister pump module - Connector/Wire harness (Canister pump module - ECM) - ECM	Comes on	DTC stored	<a href="#">ES-228</a>
P0452	Evaporative Emission Control System Pressure Sensor / Switch Low Input	- Canister pump module - Connector/Wire harness (Canister pump module - ECM) - ECM	Comes on	DTC stored	<a href="#">ES-228</a>
P0453	Evaporative Emission Control System Pressure Sensor / Switch High Input	- Canister pump module - Connector/Wire harness (Canister pump module - ECM) - ECM	Comes on	DTC stored	<a href="#">ES-228</a>
P0455	Evaporative Emission Control System Leak Detected (Gross Leak)	- Fuel tank cap (loose) - Leakage from EVAP line (Canister - Fuel tank) - Leakage from EVAP line (Purge VSV - Canister) - Canister pump module - Leakage from fuel tank - Leakage from canister	Comes on	DTC stored	<a href="#">ES-237</a>
P0456	Evaporative Emission Control System Leak Detected (Very Small Leak)	- Same as DTC P0455	Comes on	DTC stored	<a href="#">ES-237</a>
P0500	Vehicle Speed Sensor "A"	- Open or short in speed signal circuit - Combination meter - ECM - Skid control ECU	Comes on	DTC stored	<a href="#">ES-243</a>

DTC No.	Detection Item	Trouble Area	MIL	Memory	See page
P0503	Vehicle Speed Sensor "A" Intermittent / Erratic / High	- Open or short in speed signal circuit - Combination meter - ECM - Skid control ECU	-	DTC stored	<a href="#">ES-243</a>
P0504	Brake Switch "A" / "B" Correlation	- Short in stop light switch signal circuit - STOP fuse - Stop light switch - ECM	-	DTC stored	<a href="#">ES-247</a>
P0505	Idle Control System Malfunction	- Electronic Throttle Control System (ETCS) - Air induction system - PCV hose connection - ECM	Comes on	DTC stored	<a href="#">ES-252</a>
P0560	System Voltage	- Open in back up power source circuit - EFI fuse - ECM	Comes on	DTC stored	<a href="#">ES-256</a>
P0604	Internal Control Module Random Access Memory (RAM) Error	- ECM	Comes on	DTC stored	<a href="#">ES-260</a>
P0606	ECM / PCM Processor	- ECM	-	DTC stored	<a href="#">ES-260</a>
P0607	Control Module Performance	- ECM	Comes on	DTC stored	<a href="#">ES-260</a>
P0617	Starter Relay Circuit High	- Park/Neutral Position (PNP) switch (for A/T) - Clutch start switch (for M/T) - Starter relay circuit - Ignition switch - ECM	Comes on	DTC stored	<a href="#">ES-262</a>
P0630	VIN not Programmed or Mismatch - ECM / PCM	- ECM	Comes on	DTC stored	<a href="#">ES-268</a>
P0657	Actuator Supply Voltage Circuit / Open	- ECM	Comes on	DTC stored	<a href="#">ES-260</a>
P1500	AC Inverter Malfunction	- Open in speed signal circuit - Short between idle-up signal circuit and +B circuit - Voltage inverter - ECM	Comes on	DTC stored	<a href="#">ES-270</a>



DTC No.	Detection Item	Trouble Area	MIL	Memory	See page
P1613	Secondary Air Injection Driver Malfunction	<ul style="list-style-type: none"> <li>- Air Injection Control Driver (AID)</li> <li>- Open in AID ground circuit</li> <li>- Short in diagnostic information signal circuit (AID - ECM)</li> <li>- Open or short in air pump or air switching valve command signal circuit (AID - ECM)</li> <li>- Open or short in AID power source circuit</li> <li>- Open in diagnostic information signal circuit (AID - ECM)</li> <li>- AID</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-274</a>
P2102	Throttle Actuator Control Motor Circuit Low	<ul style="list-style-type: none"> <li>- Open in throttle actuator circuit</li> <li>- Throttle actuator</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-286</a>
P2103	Throttle Actuator Control Motor Circuit High	<ul style="list-style-type: none"> <li>- Short in throttle actuator circuit</li> <li>- Throttle actuator</li> <li>- Throttle valve</li> <li>- Throttle body assembly</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-286</a>
P2111	Throttle Actuator Control System - Stuck Open	<ul style="list-style-type: none"> <li>- Throttle actuator</li> <li>- Throttle body assembly</li> <li>- Throttle valve</li> </ul>	Comes on	DTC stored	<a href="#">ES-290</a>
P2112	Throttle Actuator Control System - Stuck Closed	<ul style="list-style-type: none"> <li>- Throttle actuator</li> <li>- Throttle body assembly</li> <li>- Throttle valve</li> </ul>	Comes on	DTC stored	<a href="#">ES-290</a>
P2118	Throttle Actuator Control Motor Current Range / Performance	<ul style="list-style-type: none"> <li>- Open in Electronic Throttle Control System (ETCS) power source circuit</li> <li>- ETCS fuse</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-293</a>
P2119	Throttle Actuator Control Throttle Body Range / Performance	<ul style="list-style-type: none"> <li>- Electronic Throttle Control System (ETCS)</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-298</a>
P2120	Throttle / Pedal Position Sensor / Switch "D" Circuit	<ul style="list-style-type: none"> <li>- Accelerator pedal position sensor</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-301</a>
P2121	Throttle / Pedal Position Sensor / Switch "D" Circuit Range / Performance	<ul style="list-style-type: none"> <li>- Accelerator pedal position sensor circuit</li> <li>- Accelerator pedal position sensor</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-309</a>
P2122	Throttle / Pedal Position Sensor / Switch "D" Circuit Low Input	<ul style="list-style-type: none"> <li>- Accelerator pedal position sensor</li> <li>- Open in VCP1 circuit</li> <li>- Open or ground short in VPA circuit</li> <li>- ECM</li> </ul>	Comes on	DTC stored	<a href="#">ES-301</a>

DTC No.	Detection Item	Trouble Area	MIL	Memory	See page
P2123	Throttle / Pedal Position Sensor / Switch "D" Circuit High Input	- Accelerator pedal position sensor - Open in EPA1 circuit - ECM	Comes on	DTC stored	ES-301
P2125	Throttle / Pedal Position Sensor / Switch "E" Circuit	- Accelerator pedal position sensor - ECM	Comes on	DTC stored	ES-301
P2127	Throttle / Pedal Position Sensor / Switch "E" Circuit Low Input	- Accelerator pedal position sensor - Open in VCP2 circuit - Open or ground short in VPA2 circuit - ECM	Comes on	DTC stored	ES-301
P2128	Throttle / Pedal Position Sensor / Switch "E" Circuit High Input	- Accelerator pedal position sensor - Open in EPA2 circuit - ECM	Comes on	DTC stored	ES-301
P2135	Throttle / Pedal Position Sensor / Switch "A" / "B" Voltage Correlation	- Short between VTA1 and VTA2 circuits - TP sensor (built into throttle body) - ECM	Comes on	DTC stored	ES-110
P2138	Throttle / Pedal Position Sensor / Switch "D" / "E" Voltage Correlation	- Short between VPA and VPA2 circuits - Accelerator pedal position sensor - ECM	Comes on	DTC stored	ES-301
P2195	Oxygen (A/F) Sensor Signal Stuck Lean (Bank 1 Sensor 1)	- Open or short in Air-Fuel Ratio (A/F) sensor (sensor 1) circuit - A/F sensor (sensor 1) - A/F sensor (sensor 1) heater - A/F HEATER relay - A/F sensor heater and relay circuits - Air induction system - Fuel pressure - Injector - ECM	Comes on	DTC stored	ES-312
P2196	Oxygen (A/F) Sensor Signal Stuck Rich (Bank 1 Sensor 1)	- Open or short in Air-Fuel Ratio (A/F) sensor (sensor 1) circuit - A/F sensor (sensor 1) - A/F sensor (sensor 1) heater - A/F HEATER relay - A/F sensor heater and relay circuits - Air induction system - Fuel pressure - Injector - ECM	Comes on	DTC stored	ES-312

DTC No.	Detection Item	Trouble Area	MIL	Memory	See page
P2238	Oxygen (A/F) Sensor Pumping Current Circuit Low (Bank 1 Sensor 1)	- Open or short in Air-Fuel Ratio (A/F) sensor (sensor 1) circuit - A/F sensor (sensor 1) - A/F sensor heater - A/F HEATER relay - A/F sensor heater and relay circuits - ECM	Comes on	DTC stored	ES-328
P2239	Oxygen (A/F) Sensor Pumping Current Circuit High (Bank 1 Sensor 1)	- Same as DTC P2238	Comes on	DTC stored	ES-328
P2252	Oxygen (A/F) Sensor Reference Ground Circuit Low (Bank 1 Sensor 1)	- Same as DTC P2238	Comes on	DTC stored	ES-328
P2253	Oxygen (A/F) Sensor Reference Ground Circuit High (Bank 1 Sensor 1)	- Same as DTC P2238	Comes on	DTC stored	ES-328
P2401	Evaporative Emission Leak Detection Pump Stuck OFF	- Canister pump module - Connector/Wire harness (Canister pump module - ECM) - ECM - Leakage from EVAP system	Comes on	DTC stored	ES-334
P2402	Evaporative Emission Leak Detection Pump Stuck ON	- Canister pump module - Connector/Wire harness (Canister pump module - ECM) - ECM	Comes on	DTC stored	ES-334
P2419	Evaporative Emission System Switching Valve Control Circuit Low	- Canister pump module - Connector/Wire harness (Canister pump module - ECM) - ECM	Comes on	DTC stored	ES-341
P2420	Evaporative Emission System Switching Valve Control Circuit High	- Canister pump module - Connector/Wire harness (Canister pump module - ECM) - ECM - Leakage from EVAP system	Comes on	DTC stored	ES-341
P2430	Secondary Air Injection System Air Flow / Pressure Sensor Circuit Bank1	- Pressure sensor - Open or short in pressure sensor circuit - ECM	Comes on	DTC stored	ES-348
P2431	Secondary Air Injection System Air Flow / Pressure Sensor Circuit Range / Performance Bank1	- Pressure sensor - Open or short in pressure sensor circuit - ECM	Comes on	DTC stored	ES-348

DTC No.	Detection Item	Trouble Area	MIL	Memory	See page
P2432	Secondary Air Injection System Air Flow / Pressure Sensor Circuit Low Bank1	- Pressure sensor - Open or short in pressure sensor circuit - ECM	Comes on	DTC stored	<a href="#">ES-348</a>
P2433	Secondary Air Injection System Air Flow / Pressure Sensor Circuit High Bank1	- Pressure sensor - Open or short in pressure sensor circuit - ECM	Comes on	DTC stored	<a href="#">ES-348</a>
P2440	Secondary Air Injection System Switching Valve Stuck Open Bank1	- Air switching valve (ASV) - Open or short in ASV circuit - Pressure sensor - Pressure sensor circuit - Air Injection Control Driver (AID) - ECM	Comes on	DTC stored	<a href="#">ES-354</a>
P2441	Secondary Air Injection System Switching Valve Stuck Close Bank1	- Air switching valve (ASV) - Open or short in ASV circuit - Vacuum hose (ASV pressure sensor) - Air injection hose - Pressure sensor - Pressure sensor circuit - Air Injection Control Driver (AID) - ECM	Comes on	DTC stored	<a href="#">ES-354</a>
P2444	Secondary Air Injection System Pump Stuck On Bank1	- Short in air pump circuit - Air pump - Open or short in pressure sensor circuit - Pressure sensor - Air Injection Control Driver (AID) - ECM	Comes on	DTC stored	<a href="#">ES-368</a>
P2445	Secondary Air Injection System Pump Stuck Off Bank1	- Air pump - Open in air pump circuit - Air injection system piping - Vacuum hose - Pressure sensor - Open or short in pressure sensor circuit - Air Injection Control Driver (AID) - ECM	Comes on	DTC stored	<a href="#">ES-368</a>
P2610	ECM / PCM Internal Engine Off Timer Performance	- ECM	Comes on	DTC stored	<a href="#">ES-380</a>
P2A00	A/F Sensor Circuit Slow Response (Bank 1 Sensor 1)	- Open or short in air-fuel ratio sensor circuit - Air-Fuel Ratio (A/F) sensor - ECM	Comes on	DTC stored	<a href="#">ES-382</a>